

Remarks/Arguments

Applicants respectfully request consideration of the subject application as amended herein. This Amendment is submitted in response to the Office Action mailed January 26, 2007.

Claims 1-45 are pending. Claims 12, 27 and 42 are objected to.

In this Amendment, claims 12, 27, and 42 have been amended. It is respectfully submitted that the amendment does not add new matter.

Applicants reserve all rights with respect to the applicability of the Doctrine of equivalents.

The Examiner has requested a new title stating that the current title of the invention is not descriptive. The title has been amended with a descriptive title.

Claim Objections

The Examiner has objected to claims 12, 27 and 42 because of informalities. The Examiner suggests applicants use "determining a gain factor" and "an equivalent noise power" in lines 3 and 5, since the gain factors and equivalent noise power determining are per sub-carrier.

Claims 12, 27 and 42 have been amended in accordance with the Examiner's suggestion. Applicants respectfully request removal of the objections for claims 12, 27, and 42, as amended.

Claim Rejections under 35 U.S.C. §101

The Examiner has rejected claim 1 under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. The Examiner has also rejected claims 2-12 based upon their dependency upon rejected claim 1. In support of the rejection, the Office Action states in part:

Claim 1 is directed to a judicial exception to 35 U.S.C. § 101 (i.e., a mathematical algorithm) and is not directed to a practical application of such judicial exception because the claim does not require any physical transformation and the invention as claimed does not produce a useful, concrete and tangible result. Applicant's method discloses steps of determining, detecting and applying whose final product is a number, i.e. an equivalent noise power.

(Office Action, 01/26/07, page 3.)

Applicants respectfully submit that claim 1 illustrates actual structure and functionality that leads to a useful, concrete, and tangible result. "The claimed invention as a whole must accomplish a practical application. That is, it must produce a useful, concrete and tangible result." M.P.E.P. § 2106. "The applicant is in the best position to explain why an invention is believed useful. Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful." *Id.*

According to the 35 U.S.C. §101 memorandum issued by John J. Love, Deputy Commissioner for Patent Examination Policy, on April 20, 2007, the current examination guidelines for determining what is patentable subject matter has changed. The memorandum indicates that as long as the specification describes a tangible, concrete, and useful result, it is not necessary to recite the result in the claim to comply with 35 U.S.C. §101.

Claim 1 reads as follows.

A method comprising:
determining a power level of noise in a signal;
detecting whether impulse noise is in the signal;
determining a gain factor associated with the impulse noise; and
applying the gain factor to the power level of noise in the signal to
calculate an equivalent noise power.

The method of claim 1 applies the gain factor to the power level of noise in the signal to calculate an equivalent noise power. The equivalent noise power is a tangible, concrete, and useful result that can be used to produce a signal-to-noise power ratio (SNR) which can then be used to determine a bit-loading for the signal or a sub-carrier of the signal in the presence of impulse noise. (specification, paragraphs [0026], [0027], and [0040]). Determining a bit-loading for the signal in the presence of impulse noise permits reliable communication in the presence of the impulse noise. The calculation of the equivalent noise power leads to a tangible, concrete, and useful result. Thus, applicants respectfully submit that claim 1 is patentable under 35 U.S.C. § 101. Accordingly, applicants request that the rejection of claim 1 under 35 U.S.C. §101, be withdrawn.

Given that claims 2-12 depend from independent claim 1, which is patentable, applicants respectfully submit that dependent claims 2-12 are also patentable. Accordingly, applicants request that the rejection of claims 2-12 under 35 U.S.C. § 101, be withdrawn.

Independent claims 13, 16, 28, 31, and 43 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Independent claims 13, 16, 28, 31, and 43 include similar, but not identical, limitations compared to the limitations of the claim 1. Applicants respectfully submit that based on the previous §101 arguments discussed above, claims 13, 16, 28, 31, and 43 satisfy the requirements for patentability of 35 U.S.C. § 101. Accordingly, applicants respectfully request that the rejection of claims 13, 16, 28, 31, and 43 under 35 U.S.C. § 101 be withdrawn.

Dependent claims 14, 15, 17-27, 29, 30, 32-42, 44 and 45 stand rejected under 35 U.S.C. § 101 based on their dependency upon a corresponding one of independent claims 13, 16, 28, 31, and 43 noted above. Given that dependent claims 14, 15, 17-27, 29, 30, 32-42, 44 and 45 depend from a corresponding one of independent claim 13, 16, 28, 31, and 43 noted above, which are patentable, applicants respectfully submit that dependent claims 14, 15, 17-27, 29, 30, 32-42, 44 and 45 are also patentable. Accordingly, applicants request that the rejection of claims 14, 15, 17-27, 29, 30, 32-42, 44 and 45 under 35 U.S.C. § 101, be withdrawn.

Conclusion

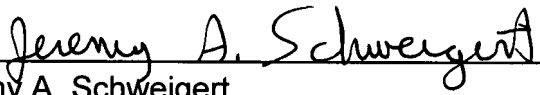
Applicant respectfully submits that in view of the amendments and discussion set forth herein, the applicable rejections have been overcome. Accordingly, the present and amended claims should be found to be in condition for allowance.

If a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Jeremy A. Schweigert at (408) 720-8300.

If there are any additional charges/credits, please charge/credit our Deposit Account No. 02-2666.

Respectfully submitted,
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